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XLI. Observations of Immersions and Emerfions of Jupiter's first Satellite, made at Funchal, in Madeira, with a reflecting Telescope of 18 Inches Focus, made by Mr. Short. The Time was found by taking equal Altitudes, with a Quadrant of 12 Inches radius, made by Mr. Bird, and with the help of a good Pendulum Clock made in London. By the late Thomas Heberden, M. D. F. R. S.

Read Dec. 13, 1770.

THE latitude of the place of observation in Funchal, by a mean of feveral obfervations made with the fame quadrant = $32^{\circ} 33' 35''$.

Observations of Jupiter's first Satellite,
made at Madeira.

	Magnif. power	Apparent time		Obſer. made at Greenwich with a reflector of fix feet focus, pow- er 100	Calculated in the Connoif- ſance des temps.	Diff. of Mer. between Madei- ra and Green- wich		
		Emerſions.						
		h	' "		h	' "	h	' "
1763 Dec. 26	95	7	16 4		8	31 47	1	6 27
1764 Jan. 11	95	5	27 35 hazy		6	42 55	1	6 4
25	95	9	12 42		10	28 24	1	6 26
Feb. 10	55	7	29 47		8	45 34	1	6 31
17	55	9	25 12 flying clouds		10	41 3	1	6 35
Mar. 27	55	8	9 3 clouds		9	24 48	1	6 29
1765 Dec. 24		Immerſions.		10 39 27				
1766 Jan. 16	55	9	31 20		10	47 48	1	7 12
Feb. 1	55	7	44 38		9	0 43	1	6 49
		Emerſions.						
Mar. 5	55	6	37 36 doubtful	7 45 5	7	53 28	1	6 36
1767 Apr. 16	55	8	9 48	9 16 13	Calculated in the Naut. Alm.		1	7
May 9	55	8	25 35 flying clouds	9 32 26	9	16 55	1	7 37
					9	33 12		

Observations

Observations of Jupiter's first Satellite,
made at Madeira.

	Magnif. power	Apparent time	Obfer. made at Greenwich with a reflector of fix feet focus pow- er 100	Calculated in the nautical almanac	Diff. of Mer. between Madei- ra and Green- wich
		Immerfions.			
1768		h ' "		h ' "	h ' "
Mar. 26	55	8 26 51		9 34 19	1 7 28
Apr. 2			11 29 23		
		Emerfions.			
Apr. 18			12 1 37		
25			13 57 19		
27	55	7 19 24		8 26 42	1 7 18
May 4	55	9 15 0 doubtful		10 22 13	1 7 13
11			12 16 46		
18			14 13 17		
20	55	7 33 27		8 40 42	1 7 15
27	55	9 27 33		10 34 57	1 7 24
June 3			12 28 6		
July 5	55	7 52 10 flying clouds		8 59 24	1 7 14
			Diff. of the two mer. by the obf. of 16 April, 1767		
			1 6 25		
Add for diff. of telescopes	- - - -		25		
diff. of meridians	- - - -		1 6 50		
					1 6 55 $\frac{1}{2}$ mean.

N. B. 25'' are to be allowed for the difference between the reflector used at Greenwich and that used at Madeira.

9' 16'' are allowed for the difference of meridians between Paris and Greenwich.